

CLAIMS

1.- Method of producing a digital printing ink characterized by comprising the following steps:

- Proceed to dispersing pigments in a mixture of oligomers and monomers, including polyol acrylates, up to with a maximum particle size of 1 micron.
- This is subsequently diluted with a mixture of monofunctional and multifunctional acrylic monomers until a viscosity between 10 and 30 centipoises is achieved, having in the formulation a maximum of between 10 and 25% of monofunctionals.
- Then, a photoinitiator system is introduced, which starts the polymerization of the oligomers and monomers from the first step, in the presence of ultraviolet radiation.
- subjecting the resulting ink to a filtering process, to obtain particles by means of at least one filter, finalizing with a 1 micron filter.

2.- Method according to claim 1 characterized by obtaining the mentioned dispersing pigments by using a high energy ball mill, combined with a constant temperature between 35°C and 80°C, milling until an average particle size between 0.1 and 0.8 microns is obtained, combining all of the above in a mixture of monomers, polyol acrylates, and dispersants.

3.- Method according to claim 1 or 2 characterized by the production of free radicals that react with the oligomers and monomers once the resulting ink is printed on a media and a radiation source is applied to this ink, fracturing the molecules of the photoinitiator system, thus producing a polymer that sets the pigments on the media.

4.- Method according to claim 1 or 3 characterized by having Isobornyl Acrylate among the multifunctional acrylic monomers, with a ratio of 10% to 25% of total acrylic monomers.

5.- Method according to claim 1 or 3 or 4 characterized by having bifunctional and trifunctional multifunctional acrylic monomers with a ratio of 50% to 90% of total acrylic monomers.

6.- Method according to claim 5 characterized by having Hexandioldiacrylate among the bifunctional acrylic monomers.

7.- Method according to claim 5 or 6 characterized by having Tripropyleneglycoldiacrylate among the bifunctional acrylic monomers.

8.- Method according to claim 5 or 6 or 7 characterized by having Dipropyleneglycoldiacrylate among the bifunctional acrylic monomers.

9.- Method according to claim 5 or 6 or 7 characterized by having Trimethylpropanotryacrylate among the bifunctional acrylic monomers.

10.- Method according to claim 3 characterized by having the source of radiation be at least one source of ultraviolet light.

11.- Method according to claim 3 characterized by having the source of radiation be a bombardment of electrons.

12.- Digital printing ink according to the previously mentioned method characterized by comprising pigments in an organic medium dispersed in a mixture of oligomers and monomers and polyol acrylate with a maximum particle size of 1 micron; diluting it with a mixture of monofunctional and multifunctional acrylic monomers until a viscosity of between 10 and 30 centipoises is obtained; with a photoinitiator system which causes the polymerization of the oligomers and monomers from the first step, subjecting the resulting ink to at least one filter, finalizing with a 1 micron filter.

13.- Ink according to claim 12 characterized by pigments that have an average particle size between 0.1 and 0.8 microns.

14.- Ink according to claim 13 characterized by pigments that are combined with a mixture of monomers and dispersants.

15.- Ink according to claim 12 or 14 characterized by having Isobornyl Acrylate as the multifunctional acrylic monomer, with a ratio of 10% to 25%.

16.- Ink according to claim 12 or 14 characterized by having bifunctional and trifunctional multifunctional acrylic monomers, with a ratio of 50% to 90%.

16.- Ink according to claim 16 characterized by having Hexandioldiacrylate among the bifunctional acrylic monomers.

18.- Ink according to claim 16 or 17 characterized by having Tripropyleneglycoldiacrylate among the bifunctional acrylic monomers.

19.- Ink according to claim 16 or 17 or 18 characterized by having Tripropyleneglycoldiacrylate among the bifunctional acrylic monomers.

20.- Ink according to claim 16 or 17 or 18 or 19 characterized by having etoxylated Trimethylolpropanetriacrylate among the trifunctional acrylic monomers.